AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for measurement of an optical ~~rsp.~~ or electrical signal ~~sequences~~ sequence (S) in an optical or electrical transmission system wherein a multitude of consecutive signals ~~is~~ are sampled periodically at a sampling time (T_1) with at least one adjustable threshold value (SW), wherein ~~the~~ a first probability (W_1) that ~~the~~ a value of the signal sequence (S) at ~~a~~ the sampling time (T_1) is above or below ~~each~~ a first threshold value (SW_1) is measured, after a given period of time (t_s) the first threshold value (SW_1) is changed and ~~the~~ a second probability (W_2) that ~~a~~ the value of the signal sequence (S) at ~~a~~ the sampling time (T_1) is above or below a ~~new~~ second threshold value (SW_2) is measured and the first probability (W_1) ~~of the preceding threshold value (SW_1)~~ is subtracted from the second probability (W_2) ~~of the current threshold value (SW_2)~~.

2. (Currently Amended) The method of claim 1, wherein ~~the~~ a sampling time (T_x) at which the consecutive signals are sampled with ~~an~~ the at least one adjustable threshold value (SW) is modified after a fixed or adjustable period of time (t_p).

3. (Currently Amended) The method of claim 2, wherein ~~first all~~ a plurality of

probabilities (W_1, W_2, W_3 ...) ~~of all~~ associated with threshold values (SW_1, SW_2, SW_3 ...) are measured successively at a first sampling time (T_x), ~~then the sampling time (T_x) is changed, and then for the new~~ and wherein, for a second sampling time ($T_{x'}$) ~~again all~~ the plurality of probabilities (W_1, W_2, W_3 ...) ~~of all~~ associated with threshold values (SW_1, SW_2, SW_3 ...) are measured successively.

4. (Currently Amended) The method of claim 2, wherein ~~first the probabilities~~ the first probability (W_1) of the first threshold value (SW_1) ~~are~~ is measured successively for ~~all~~ a plurality of sampling times (T_1, T_2, T_3 ...), ~~then the threshold value (SW_1) is changed, and then for the new~~ and wherein, for the second threshold value (SW_2) ~~again the probabilities~~ the second probability (W_2) for ~~all~~ the plurality of sampling times (T_1, T_2, T_3 ...) ~~are~~ is measured successively.

5. (Currently Amended) The method of claim 1, wherein for measurement of ~~the~~ a plurality of probabilities (W_1, W_2, W_3 ...) the signals are fed to a threshold decision circuit, ~~the~~ wherein results of the threshold decision circuit are counted in an event counter, and ~~the~~ wherein results of the event counter ~~is~~ are fed to a storage device.

6. (Currently Amended) The method of claim 1, wherein the first threshold value (SW_1) is set to a value above ~~the~~ a highest expected value of the signal sequence (S).

7. (Currently Amended) The method of claim 6, wherein ~~the~~ a plurality of threshold ~~value~~ values (SW_1, SW_2, SW_3 ...) ~~is~~ are reduced after each period of time

(t_s) until ~~the~~ a threshold value (SW_m) is set to a value below ~~the~~ a lowest expected value of the original sequence.

8. (Currently Amended) The method of claim 1, wherein the first threshold value (SW_1) is set to a value below ~~the~~ a lowest expected value of the signal sequence (S).

9. (Currently Amended) The method of claim 8, wherein ~~the~~ a plurality of threshold ~~value~~ values (SW_1, SW_2, SW_3 ...) ~~is~~ are increased after each period of time (t_s) until ~~the~~ a highest threshold value (SW_m) is set to a value above ~~the~~ a highest value of the signal sequence (S).

10. (Currently Amended) An eye diagram monitor for generation of an eye diagram of signal sequence (S) with at least one threshold decision circuit ~~(3)~~, with at least one storage device ~~(5)~~, and with an analysis device ~~(5)~~, ~~particularly for the execution of the method of claim 1,~~ said at least one threshold decision circuit being adapted to:

sample a multitude of consecutive signals periodically at a sampling time (T_1) with at least one adjustable threshold value (SW);

measure whether a first probability (W_1) that a value of the signal sequence (S) at the sampling time (T_1) is above or below a first threshold value (SW_1);

measure whether, after a given period of time (t_s), the first threshold value (SW_1) is changed and a second probability (W_2) that the value of the

signal sequence (S) at the sampling time (T_1) is above or below a new threshold value (SW_2);

subtract the first probability from the second probability (W_2); wherein the eye diagram monitor comprises at least one counter ~~(6) is provided~~, wherein the signal sequence (S) is fed to an input ~~(7)~~ of the threshold decision circuit ~~(3)~~, and the output ~~(8)~~ of the threshold decision circuit ~~(3)~~ is connected to the input ~~(9)~~ of the counter ~~(6)~~.

11. (Currently Amended) The eye diagram monitor of claim 10, wherein an adder ~~(10)~~ is provided by which a DC voltage (O) is added to the signal sequence (S) and the sum of signal sequence (S) and DC voltage (O) is fed to the input ~~(7)~~ of the threshold decision circuit ~~(3)~~.

12. (Currently Amended) The eye diagram monitor of claim 11, wherein for the adder ~~(10)~~ a current-driven emitter-follower with a series resistor or a current mirror is used.

13. (Currently Amended) The eye diagram monitor of claim 10, wherein the threshold decision circuit ~~(3)~~ and/or the counter ~~(6)~~ is realized by a flip-flop.

14. (Currently Amended) The eye diagram monitor of claim 10, wherein the threshold decision circuit ~~(3)~~ is connected with an adjustable phase shifter ~~(12)~~.

15. (New) The eye diagram monitor of claim 10, wherein the at least one

threshold decision circuit further comprises:

means for sampling a multitude of consecutive signals periodically at a sampling time (T_1) with at least one adjustable threshold value (SW);

means for measuring whether a first probability (W_1) that a value of the signal sequence (S) at the sampling time (T_1) is above or below a first threshold value (SW_1);

means for measuring whether, after a given period of time (t_s), the first threshold value (SW_1) is changed and a second probability (W_2) that the value of the signal sequence (S) at the sampling time (T_1) is above or below a new threshold value (SW_2);

means for subtracting the first probability from the second probability (W_2); wherein the eye diagram monitor comprises at least one counter.